

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A method for adjoining at least two protective barriers on a processing element comprising:

defining a transition region on said processing element, wherein said transition region comprises an overlap of a first protective barrier and a second protective barrier;

applying said first protective barrier to a first region of said processing element, said first region comprising a region where the second protective barrier is not applied and including said transition region;

treating a second region of said processing element in order to improve adhesion of said second protective barrier, said second region comprising a region where the first protective barrier is not applied and including said transition region; and

applying said second protective barrier to said second region such that the second protective barrier overlaps the first protective barrier only in the transition region of the first and second regions.

Claim 2 (Original): The method as recited in claim 1, wherein said transition region comprises at least a portion of an edge.

Claim 3 (Original): The method as recited in claim 2, wherein said edge is characterized by at least one edge radius.

Claim 4 (Original): The method as recited in claim 3 further comprising forming said edge, wherein said edge comprises one edge radius, and said edge radius ranges from 0.5 mm to 5 mm.

Claim 5 (Original): The method as recited in claim 4, wherein said edge radius ranges from 0.5 mm to 2 mm.

Claim 6 (Original): The method as recited in claim 1, wherein said first protective layer and said second protective layer comprise at least one of a surface anodization, a coating formed using plasma electrolytic oxidation, and a spray coating.

Claim 7 (Original): The method as recited in claim 1, wherein said first protective layer and said second protective layer comprise at least one of alumina, carbon, silicon carbide, silicon, quartz, Teflon, Vespel, and Kapton.

Claim 8 (Original): The method as recited in claim 1, wherein said first protective barrier and said second protective barrier comprise at least one of a III-column element and a Lanthanum element.

Claim 9 (Original): The method as recited in claim 1, wherein said first protective barrier and said second protective barrier comprise at least one of Yttria ( $\text{Y}_2\text{O}_3$ ),  $\text{Sc}_2\text{O}_3$ ,  $\text{Sc}_2\text{F}_3$ ,  $\text{YF}_3$ ,  $\text{La}_2\text{O}_3$ ,  $\text{CeO}_2$ ,  $\text{Eu}_2\text{O}_3$ , and  $\text{Dy}_2\text{O}_3$ .

Claim 10 (Original): The method as recited in claim 1, wherein said first protective barrier comprises a surface anodization, and said second protective barrier comprises a spray coating.

Claim 11 (Original): The method as recited in claim 1, wherein said treating comprises grit blasting.

Claim 12 (Currently Amended): A processing element for a processing system comprising:

a first protective barrier coupled to a first region on said processing element the first region including a transition region; and

a second protective barrier coupled to a second region on said processing element the second region including said transition region,

wherein said first region and said second region overlap ~~to form a~~ only in said transition region such that the first and second protective barriers overlap only in the transition region of the first and second regions.

Claim 13 (Original): The processing element as recited in claim 12, wherein said second region is treated to improve the adhesion of said second protective barrier.

Claim 14 (Original): The processing element as recited in claim 13, wherein said treating comprises grit blasting.

Claim 15 (Original): The processing element as recited in claim 12, wherein said transition region comprises at least a portion of an edge.

Claim 16 (Original): The processing element as recited in claim 15, wherein said edge is characterized by at least one edge radius.

Claim 17 (Original): The processing element as recited in claim 16, wherein said edge comprises one edge radius, and said edge radius ranges from 0.5 mm to 5 mm.

Claim 18 (Original): The processing element as recited in claim 17, wherein said edge radius ranges from 0.5 mm to 2 mm.

Claim 19 (Original): The processing element as recited in claim 12, wherein said first protective layer and said second protective layer comprise at least one of a surface anodization, a coating formed using plasma electrolytic oxidation, and a spray coating.

Claim 20 (Original): The processing element as recited in claim 12, wherein said first protective layer and said second protective layer comprise at least one of alumina, carbon, silicon carbide, silicon, quartz, Teflon, Vespel, and Kapton.

Claim 21 (Original): The processing element as recited in claim 12, wherein said first protective barrier and said second protective barrier comprise at least one of a III-column element and a Lanthanum element.

Claim 22 (Original): The processing element as recited in claim 12, wherein said first protective barrier and said second protective barrier comprise at least one of Yttria ( $\text{Y}_2\text{O}_3$ ),  $\text{Sc}_2\text{O}_3$ ,  $\text{Sc}_2\text{F}_3$ ,  $\text{YF}_3$ ,  $\text{La}_2\text{O}_3$ ,  $\text{CeO}_2$ ,  $\text{Eu}_2\text{O}_3$ , and  $\text{Dy}_2\text{O}_3$ .

Claim 23 (Original): The processing element as recited in claim 12, wherein said first protective barrier comprises a surface anodization, and said second protective barrier comprises a spray coating.

Claim 24 (Original): The processing element as recited in claim 12, wherein the first and second protective barriers comprise the same material.

Claim 25 (Original): The processing element as recited in claim 12, wherein the first and second protective barriers comprise different materials.